CLAIMS

We claim:

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1. A recombinant nucleic acid encoding a Toso protein that will hybridize under high stringency conditions to the nucleic acid sequence depicted in Figure 1 (SEQ ID NO:1) or its complement.

2. A recombinant nucleic acid encoding a Toso protein that is at least about 70% identical to the amino acid sequence depicted in Figure 1 (SEQ ID NO:1).

3. A recombinant nucleic acid according to claim 2 that is at least about 70% identical to the nucleic acid sequence depicted in Figure 1 (SEQ ID NO:1) or its complement.

4. A recombinant nucleic acid according to claim 1 wherein said Toso protein is a human Toso protein.

5. A recombinant nucleic acid according to claim 1 encoding the amino acid sequence depicted in Figure 1 (SEQ ID NO:1).

6. A recombinant nucleic acid according to claim 1 encoding a Toso polypeptide that is at least about 70% identical to the sequence of amino acid residues 18 to 253 of Figure 2a (SEQ ID NO:2).

7. A recombinant nucleic acid according to claim 1 having at least 70% sequence identity to (a) a DNA molecule encoding a Toso polypeptide comprising the sequence of amino acid residues 18 to 253 of Figure 2a (SEQ ID NO:2), or (b) the complement of the DNA molecule of (a).

8. A recombinant nucleic acid according to claim 1 encoding a Toso polypeptide that is at least about 70% identical to the sequence of amino acid residues 18 to 272 of Figure 2a (SEQ ID NO:2)

9. A recombinant nucleic acid according to claim 1 having at least 70% sequence identity to (a) a nucleic acid molecule encoding a Toso polypeptide comprising the sequence of amino acid residues 18 to 272 of Figure 2a (SEQ ID NO:2), or (b) the complement of the nucleic acid molecule of (a).

10. A recombinant nucleic acid according to claim 1 encoding a Toso polypeptide that is at least about 70% identical to the sequence of amino acid residues 273 to 390 of Figure 2a (SEQ ID NO:2).

11. A recombinant nucleic acid according to claim 1 comprising DNA having at least 70% sequence identity to (a) a nucleic acid molecule encoding a Toso polypeptide comprising the sequence of amino acid residues 273 to 390 of Figure 2a (SEQ ID NO:2), or (b) the complement of the nucleic acid molecule of (a).

12. A recombinant nucleic acid according to claim 1 operably linked to control sequences recognized by a host cell transformed with the nucleic acid.

13. An expression vector comprising the nucleic acid of claim 12.

14. A host cell comprising the recombinant nucleic acid of claim 1.

15. A host cell comprising the vector of claim 13.

16. A process for producing a Toso protein comprising culturing the host cell of claim 14 under conditions suitable for expression of a Toso protein.

17. A process according to claim 16 further comprising recovering said Toso protein.

18. A Toso protein encoded by a nucleic acid that will hybridize under high stringency conditions to the complement of the nucleic acid sequence depicted in Figure 1 (SEQ ID NO:1).

19. A recombinant Toso protein that is at least about 70% identical to the amino acid sequence depicted in Figure 2a (SEQ ID NO:2).

20. A Toso protein according to claim 18 comprising the sequence depicted in Figure 2a (SEQ ID NO:2).

21. A Toso protein according to claim 18 encoded by a nucleic acid at least about 70% identical to the nucleic acid sequence depicted in Figure 1 (SEQ ID NO:1).

22. An isolated polypeptide which specifically binds to a Toso protein according to claim 18.

23. A polypeptide according to claim 22 that is an antibody.

24. A polypeptide according to claim 23 wherein said antibody is a monoclonal antibody.

25. A monoclonal antibody according to claim 24 that modulates the biological function of a Toso protein.

26. A monoclonal antibody according to claim 25 that reduces or eliminates the biological function of a Toso protein.

27. A monoclonal antibody according to claim 24 that increases the biological function of a Toso protein.

28. An antibody according to claim 23 directed against the extracellular domain of the Toso protein comprising the sequence of amino acid residues 18 to 253 of Figure 2a (SEQ ID NO:2).

29. An antibody according to claim 23 directed against the cytoplasmic domain of the Toso protein comprising the sequence of amino acid residues 273 to 390 of Figure 2a (SEQ ID NO:2).

30. A method of modulating apoptosis in a cell comprising administering to said cell a recombinant nucleic acid encoding a Toso protein.

31. A mammalian cell comprising a modified Toso cell surface receptor.

32. A method for treating an apoptosis related condition in a mammal comprising administering a recombinant nucleic acid encoding a Toso protein.

33. A method for treating an apoptosis related condition in a mammal comprising administering a Toso protein.

34. A method for treating an apoptosis related condition in a mammal comprising administering an anti-Toso antibody.

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